

LAW OFFICE OF
ROBERT W. KAYLOR, P.A.
3700 GLENWOOD AVENUE, SUITE 330
RALEIGH, NORTH CAROLINA 27612
(919) 828-5250
FACSIMILE (919) 828-5240

OFFICIAL COPY

February 22, 2012

Ms. Gail L. Mount, Deputy Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4325

FILED
FEB 22 2012

Clerk's Office
N.C. Utilities Commission

RE: Docket No. E-7 Sub 831
Residential Smart Saver Program

Dear Ms. Mount:

Enclosed for filing with and approval by the North Carolina Utilities Commission (the "Commission") are an original and thirty copies of Duke Energy Carolinas, LLC's ("Duke Energy Carolinas" or the "Company") proposed added measures to the Residential Smart Saver Program. The energy efficiency measures are filed in accordance with Commission Rule R8-68 and the Commission's Order dated February 29, 2008 and March 13, 2008 in Docket No. E-100, Sub 113, Rulemaking Proceeding to Implement Session Law 2007-397 ("Senate Bill 3"). A brief description of the added measures to the Residential Smart Saver Program is as follows:

Residential Smart Saver Program – Added Measures

The purpose of these added measures is to provide residential customers with additional opportunities to lower their homes' electricity usage through maintenance and improvements to their central heating, ventilation, and air conditioning ("HVAC") system(s) as well as the structure of their residence. Each proposed added measure offered through the program will have a prescribed incentive. The additional measures to be incentivized through the program are:

- Attic Insulation and Air Sealing
- Duct Sealing
- Duct Insulation
- Central Air Conditioner Tune Up
- Heat Pump Tune Up

The improvements offered through the program will directly address the efficiency of the customer's HVAC system(s) and building envelope. Improvements will

4m
AG
7comm
Watson
Green
Duffley
hoober
Wite
hillman
Jones
Sessoms
Enrison
hodge
Gubler
2 pscro
3 pscro
3 pscro
3 pscro

be completed individually or bundled together to provide even greater savings to the customer. The program will also provide separate initial incentives for the aforementioned additional measures, with the option for the Company to increase such incentives. Attachments "A-F" and "A2-F2" represent projected operations for the program, including the current and proposed measures. The differences between "A-F" and "A2-F2" result from the proposed minimum and maximum incentives from the Company.

All program costs associated with the added Residential Smart Saver Program measures will be subject to recovery through the Company's annual demand side management/energy efficiency ("DSM/EE") rider in accordance with the modified save-a-watt compensation mechanism as approved by the Commission in its *Order Approving Agreement and Joint Stipulation of Settlement Subject to Certain Commission-Required Modifications and Decisions on Contested Issues* issued February 9, 2010 in Docket No. E-7, Sub 831 ("Order").

Please direct all notices and communications to the following parties:

Brian L. Franklin
Associate General Counsel
Duke Energy Carolinas, LLC
550 South Tryon Street
DEC45A/P.O. Box 1321
Charlotte, North Carolina 28201
Telephone: 980-373-4465
Brian.Franklin@duke-energy.com

Robert W. Kaylor, P.A.
Law Office of Robert W. Kaylor
3700 Glenwood Avenue, Suite 330
Raleigh, North Carolina 27612
Telephone: 919-828-5250
Robert.Kaylor@duke-energy.com

Duke Energy Carolinas requests that the Commission:

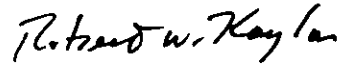
1. Approve the Residential Smart Saver Program pursuant to Rule R8-68;
2. Find that the Residential Smart Saver Program meets the requirements of "new" DSM/EE programs consistent with Rule R8-69;
3. Find that all costs incurred by the Company associated with the Residential Smart Saver Program will be eligible for recovery through the Company's annual DSM/EE rider in accordance with the modified save-a-watt compensation mechanism as approved by the Order; and

4. Find that the Residential Smart Saver Program will be eligible for recovery of net lost revenues.

The attached filing package contains a more detailed description of the Residential Smart Saver Program, prepared in accordance with Rule R8-68(c)(2) and (3).

Thank you for your attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert W. Kaylor". The signature is written in a cursive, slightly slanted style.

Robert W. Kaylor

Encls.

cc: Parties of Record

Residential Smart Saver – HVAC Measures

R8-68 Filing Requirements	
Residential Smart Saver® Program for HVAC	
Filing Requirements	
(c)(2)(i)(a)	Measure / Program Name Smart Saver® Program for Residential Customers: Additional energy efficiency measures.
(c)(2)(i)(b)	Consideration to be Offered Duke Energy is requesting approval to add additional energy efficiency measures primarily delivered through trade allies. Participating customers and/or trade allies can receive prescribed incentives for completion of qualified energy saving improvements. The improvements offered through the program will directly address the efficiency of the customer's HVAC system(s) and building envelope. The improvements can be completed individually or bundled together to provide an even greater savings to the customer.
(c)(2)(i)(c)	Anticipated Total Cost of the Measure / Program See Attachments B and B2, line 12.
(c)(2)(i)(d)	Source and Amount of Funding Proposed to be Used The source of funding will come from Duke Energy Carolinas.
(c)(2)(i)(e)	Proposed Classes of Persons to Whom This Will be Offered The additional measures are available to owners of existing individually-metered residences, condominiums and mobile homes served on a Duke Energy Carolinas' residential rate schedules from Duke Energy Carolinas' retail distribution system.
(c)(2)(i)(f)	Duration of the Proposed Measure / Program This program is expected to be ongoing with no planned end date.
(c)(2)(ii)	Describe the Measure / Program (including its duration, purpose, estimated number of participants, and the impact of each measure or program is expected to have on the electric public utility or electric membership corporation, its customer body as a whole, and its participating customers) The purpose of this program is to provide residential customers with additional opportunities to lower their home's electric usage through maintenance and improvements to their central HVAC system(s) as well as the structure of their residence. Each measure offered through the program will have a prescribed incentive associated with successful completion by an approved contractor. The additional measures to be incentivized through the program are: <ul style="list-style-type: none"> Attic Insulation and Air Sealing Duct Sealing Duct Insulation Central Air Conditioner Tune Up Heat Pump Tune Up Duration- see Attachments A and A2, line 1. Estimated number of participants- see Attachments A and A2, lines 3-10. Impact of each measure- see Attachments A and A2, lines 11-14 (Capacity) and lines 15-18 (Energy).
(c)(2)(iii)(a)	Estimated Total and Per Unit Cost and Benefit of the Measure / Program and the Planned Accounting Treatment for Those Costs and Benefits The proposal of this residential program whose actual cost and benefits may not be completely known until after measurement and verification has been performed. As such, the Company has provided its best estimates of the program's cost and benefits. Total estimated cost- see Attachments B and B2, line 12.

Residential Smart \$aver – HVAC Measures

	<p>Per unit cost and benefit- see Attachments A and A2, lines 19-24 and 29-32 Attachments D and D2, lines 1-20. Total benefit- see Attachments B and B2, line 11.</p> <p>Costs associated with this program will be expensed as the corresponding revenues are earned. For additional information about how program will be accounted for, please see the testimony of Company Witness J. Danny Wiles in docket No. E-7, Sub 831.</p>
(c)(2)(iii)(b)	<p>Type, Amount, and Reason for Any Participation Incentives and Other Consideration and to Whom They Will be Offered, Including Schedules Listing Participation Incentives and Other Consideration to be Offered</p> <p>Incentives will be awarded on a consistent and nondiscriminatory basis to eligible customers who have successfully implemented a qualifying measure and submitted a completed application in compliance with program requirements. Duke Energy proposes to maintain the flexibility to modify the incentive distribution channel allowing the Company to modify the type of incentive to appeal to a diverse set of customers. The primary method of distribution will be via Duke Energy rebate check paid directly to the customer upon approval of an application. Other possible methods of incentive distribution include trade ally rebates, gift cards, pre-paid credit cards, and etc.</p> <p>Total incentives- see Attachments B and B2, line 8. Incentives per year- see Attachments C and C2, lines 17-20. Per participant incentives- see Attachments D and D2, lines 9-12.</p>
(c)(2)(iii)(c)	<p>Service Limitations or Conditions Planned to be Imposed on Customers Who do not Participate in the Measure / Program</p> <p>None</p>
(c)(2)(iv)	<p>Cost-Effectiveness Evaluation (including the results of all cost-effectiveness tests and should include, at a minimum, an analysis of the Total Resource Cost Test, the Participant Test, the Utility Cost Test, and the Ratepayer Impact Measure Test)</p> <p>See Attachments B and B2, line 13.</p>
(c)(2)(v)	<p>Communications (provide detailed cost information on the amount anticipated to be spent on communications materials related to each proposed measure or program. To the extent available, the electric public utility or electric membership corporation shall include examples of all communication materials to be used in conjunction with the measure or program)</p> <p>Cost associated with communications materials through a number of communications channels including, but not limited to, trade ally program materials, bill inserts, direct mail, retailer point-of-sale material, cross selling and community events is estimated at \$ 1,013,511 and is embedded in the cost displayed in Attachments B and B2, line 7.</p>
(c)(2)(vi)	<p>Commission Guidelines Regarding Incentive Programs (provide the information necessary to comply with the Commission's Revised Guidelines for Resolution of Issues Regarding Incentive Programs, issued by Commission Order on March 27, 1996, in Docket No. M-100, Sub 124; set out as an Appendix to Chapter 8 of these rules)</p> <p>Duke Energy Carolinas' is proposing measures that are not promotional in nature, as they do not have the intent or effect of securing or increasing customer use of Duke Energy Carolinas' public utility services. The incentives offered under Smart \$aver Tune and Seal Programs offer customers an incentive to have maintenance</p>

Residential Smart \$aver – HVAC Measures

	<p>services performed on their HVAC system in order to allow the system to operate at a more efficient level and reduce consumption. Program participants will receive an incentive after measures are implemented and application is submitted and approved. Program participants will receive an incentive up to the amount listed below per measure:</p> <ul style="list-style-type: none"> • Attic Insulation and Air Sealing Incentive amount up to \$ 400 • Duct Sealing Incentive amount up to \$ 200 • Duct Insulation Incentive amount up to \$ 350 • Central Air Conditioner Tune Up Incentive amount up to \$ 60 • Heat Pump Tune Up Incentive amount up to \$ 125
(c)(2)(vii)	<p>Integrated Resource Plan (explain in detail how the measure is consistent with the electric public utility's or electric membership corporation's integrated resource plan filings pursuant to Rule R8-60)</p> <p>See the testimony of company Witness Janice D. Hager in Docket No. E-7, Sub 831.</p>
(c)(2)(viii)	<p>Other (any other information the electric public utility or electric membership corporation believes relevant to the application, including information on competition known by the electric public utility or the electric membership corporation)</p> <p>Not Applicable</p>
Additional Filing Requirements	
(c)(3)(i)(a)	<p>Measure / Program's Objective</p> <p>The primary goal for the additional measures to the Smart Saver® program is to provide Duke Energy eligible customers with a broader selection of energy efficiency measures for their homes. By offering these measures, Duke Energy will reach customers who are not replacing their current HVAC equipment but are focused on improving the performance of existing equipment, lowering their energy bills and improving overall comfort. The proposed measures provide a life cycle management opportunity that enables customers to improve the maintenance and operation of the HVAC equipment installed through the Smart Saver® program.</p>
(c)(3)(i)(b)	<p>Total Market Potential</p> <p>The estimated participation over the four year period is approximately 60,700 participants.</p>
(c)(3)(i)(c)	<p>Proposed Marketing Plan</p> <p>Duke Energy and the selected program administrator will directly promote the proposed measures to the trade allies who perform the services offered, beginning with those contractors who are currently participating in the Smart Saver® program. The main strategy for this program is to reach customers who are in need of these services at the time of their purchasing decisions. By keeping in close contact with a large majority of the contractors offering these services in our service territory, Duke Energy believes this program will be offered to most customers making decisions regarding the purchase of these services. Program materials will also be provided to Duke Energy customers identified through market and customer research, such as bill analysis, Duke Energy's Personalized Energy Report (PER) and Home Energy House Call (HEHC) program results. Program information will also be made available to contractors and customers via Duke Energy's website. Duke Energy will also analyze and incorporate any</p>

Residential Smart \$aver – HVAC Measures

	marketing tactics that our selected program administrator has found to be successful with this type of program.						
(c)(3)(i)(d)	Targeted Sector The targeted audience is Duke Energy Carolinas' residential electric customers living in existing, single family residences. The program targets households interested in energy conservation and are ready to invest in home improvements.						
(c)(3)(i)(e)	Estimated Market Growth Throughout the Life of the Measure Incremental participants see Attachments A and A2, lines 3-6. Cumulative participants see Attachments A and A2, lines 7-10.						
(c)(3)(i)(f)	Estimated Summer and Winter Peak Demand Reduction by Unit Metric and in the Aggregate by Year In aggregate by year: <ul style="list-style-type: none"> • Summer peak- see Attachments E and E2, lines 5-8. • Winter Peak- see Attachments E and E2, lines 1-4. By participant: <ul style="list-style-type: none"> • Summer peak- see Attachments A and A2, line 20. • Winter Peak- see Attachments A and A2, line 19. 						
(c)(3)(i)(g)	Estimated Energy Reduction Per Appropriate Unit Metric and in the Aggregate by Year In aggregate by year- see Attachments C and C2, lines 29-32. By participant- see Attachments D and D2, lines 23-26.						
(c)(3)(i)(h)	Estimated Lost Energy Sales Per Appropriate Unit Metric and in the Aggregate by Year In aggregate by year- see Attachments A and A2, lines 25-28. By participant- see Attachments A and A2, lines 29-32.						
(c)(3)(i)(i)	Estimated Load Shape Impacts See responses to (c)(3)(i)(f) and (c)(3)(i)(g).						
(c)(3)(i)(j)	Description of Market Barriers to the Proposed Measure / Program and How the Electric Public Utility Intends to Address Them Potential program issues include: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Market Barrier</th><th style="text-align: left;">Actions to Address</th></tr> </thead> <tbody> <tr> <td>Communication of measure protocols to trade contractors.</td><td>Duke Energy will clearly define and communicate all program requirements and measure protocols to potential contractors prior to participation in the program. Furthermore, Duke Energy will contract with a third-party to administer training specific to the program and measures listed, requiring successful completion and a signed agreement evidencing the trade contractors understanding of and their agreement to perform the services in compliance with program specifications.</td></tr> <tr> <td>Customers' understanding of Duke's motivation in promoting energy efficiency.</td><td>Duke Energy will communicate how this program benefits not only the customer, but also the environment and Duke Energy stakeholders.</td></tr> </tbody> </table>	Market Barrier	Actions to Address	Communication of measure protocols to trade contractors.	Duke Energy will clearly define and communicate all program requirements and measure protocols to potential contractors prior to participation in the program. Furthermore, Duke Energy will contract with a third-party to administer training specific to the program and measures listed, requiring successful completion and a signed agreement evidencing the trade contractors understanding of and their agreement to perform the services in compliance with program specifications.	Customers' understanding of Duke's motivation in promoting energy efficiency.	Duke Energy will communicate how this program benefits not only the customer, but also the environment and Duke Energy stakeholders.
Market Barrier	Actions to Address						
Communication of measure protocols to trade contractors.	Duke Energy will clearly define and communicate all program requirements and measure protocols to potential contractors prior to participation in the program. Furthermore, Duke Energy will contract with a third-party to administer training specific to the program and measures listed, requiring successful completion and a signed agreement evidencing the trade contractors understanding of and their agreement to perform the services in compliance with program specifications.						
Customers' understanding of Duke's motivation in promoting energy efficiency.	Duke Energy will communicate how this program benefits not only the customer, but also the environment and Duke Energy stakeholders.						
(c)(3)(i)(k)	Description of how the Measure's Impacts Will be Evaluated, Measured, and Verified Duke Energy plans to use an independent, third-party consultant specializing in the measurement and verification of energy efficiency program impacts to provide the appropriate M&V support, including the development and implementation of an evaluation plan designed to measure the demand and energy impacts.						

Residential Smart Saver – HVAC Measures

	<p>Program impacts will be computed using billing analysis if the participant population is large enough to provide statistically sound analysis. Energy impacts will be based on field verification of contractor performance combined with weather-adjusted engineering algorithms. Customer surveys will also gather information related to free ridership and customer satisfaction with the program. A process evaluation of this program will be conducted annually within the Residential Programs process review. This evaluation plan is consistent with IPMVP Option C if the participant population is large enough for billing analysis, IPMVP Option A for the engineering analysis.</p> <p>For additional information about how program impacts will be evaluated in general, please see the testimony of Company Witness Dr. Richard G. Stevie in Docket No. 3-7, Sub 831.</p>
(c)(3)(i)(I)	<p>Description of the Methodology Used to Produce the Impact Estimates, as well as, if Appropriate, Methodologies Considered and Rejected in the Interim Leading to the Final Model Specification</p> <p>Duke Energy contracted with an independent third party to develop and provide the impact estimates contained.</p> <p>See (c)(3)(i)(k).</p>
(c)(3)(ii)(a)	<p>Costs and Benefits- Any Costs Incurred or Expected to be Incurred in Adopting and Implementing a Measure / Program to be Considered for Recovery Through the Annual Rider Under G.S. 62-133.9</p> <p>Duke Energy is not explicitly requesting cost recovery under G.S. 62-133.9. Instead the Company will recover revenue through Rider EE as proposed in Docket No. E-7, Sub 831.</p>
(c)(3)(ii)(b)	<p>Estimated Total Costs to be Avoided by the Measure by Appropriate Capacity, Energy and Measure unit Metric and in the Aggregate by Year</p> <p>In aggregate:</p> <ul style="list-style-type: none"> • See Attachments B and B2, lines 1-3 <p>Per unit:</p> <ul style="list-style-type: none"> • Capacity- see Attachments A and A2, lines 33-36. • Energy- see Attachments A and A2, lines 37-40.
(c)(3)(ii)(c)	<p>Estimated Participation Incentives by Appropriate Capacity, Energy, and Measure Unit Metric and in the Aggregate by Year</p> <p>In aggregate- see Attachments B and B2, lines 8.</p> <p>Per year- see Attachments C and C2, lines 17-20.</p> <p>Per participant- see Attachments D and D2, lines 9-12.</p> <p>By Capacity- see Attachments E and E2, lines 17-20.</p> <p>By Energy- see Attachments F and F2, lines 13-16.</p>
(c)(3)(ii)(d)	<p>How the Electric Public Utility Proposes to Allocate the Costs and Benefits of the Measure Among the Customer Classes and Jurisdictions it Serves</p> <p>The Company plans to allocate the costs and benefits of this program among customer classes and jurisdictions as specified in the North Carolina Utility Commission's February 9, 2010 Order in Docket E-7, Sub 831.</p>
(c)(3)(ii)(e)	<p>Capitalization Period to Allow the Utility to Recover All Costs or Those Portions of the Costs Associated with a New Program or Measure to the Extent That Those Costs are Intended to Produce Future Benefits as Provided in G.S. 62-133.9(d)(1)</p> <p>No costs from this program will be capitalized. For additional information about how programs will be accounted for, please see the North Carolina Utilities Commission's February 9, 2010 Order in Docket E-7, Sub 831.</p>

Residential Smart \$aver – HVAC Measures

(c)(3)(iii)(a)	<p>Measurement and Verification Reporting Plan- Describe the Industry-Accepted Methods to be Used to Measure, Verify, and Validate the Energy and Peak Demand Savings</p> <p>The Company intends to follow industry-accepted methodologies for all measurement and verification activities. See (c)(3)(i)(k).</p>
(c)(3)(iii)(b)	<p>If the Electric Public Utility Plans to Utilize an Independent Third Party for Purposes of Measurement and Verification, an Identification of the Third Party and All of the Costs of That Third Party Should be Included. The Costs of Implementing the Measurement and Verification Process May be Considered as Operating Costs</p> <p>The Company intends to use a third-party evaluator and costs are estimated to be 5% of total program costs.</p>
(c)(3)(iv)	<p>Cost Recovery Mechanism- Describe the Proposed Method of Cost Recovery From its Customers</p> <p>The Company intends to recover revenue under Rider EE.</p>
(c)(3)(v)	<p>Tariffs or Rates- Provide Proposed Tariffs or Modifications to Existing Tariffs That Will be Required to Implement Each Measure/Program</p> <p>The tariff proposed by the Company for this program is included as Attachment G.</p>
(c)(3)(vi)	<p>Utility Incentives- Indicate Whether it Will Seek to Recover Any Utility Incentives, Including, if Appropriate, Net Lost Revenues, in Addition to its Costs</p> <p>The Company intends to recover revenue under Rider EE.</p>

Residential Smart Saver – HVAC Measures

Attachment A

Participation

	Program Name	Residential Smart Saver® Energy Efficient Products
1	Measure Life	12
2	Free Rider %	18%
3	Incremental Participants Year 1	1,198,617
4	Incremental Participants Year 2	1,144,574
5	Incremental Participants Year 3	689,505
6	Incremental Participants Year 4	317,614
7	Cumulative Participation Year 1	1,198,617
8	Cumulative Participation Year 2	2,343,191
9	Cumulative Participation Year 3	3,032,696
10	Cumulative Participation Year 4	3,350,310
11	Cumulative Summer Coincident kW w/ losses (net free) Year 1	7,719
12	Cumulative Summer Coincident kW w/ losses (net free) Year 2	15,331
13	Cumulative Summer Coincident kW w/ losses (net free) Year 3	20,952
14	Cumulative Summer Coincident kW w/ losses (net free) Year 4	25,101
15	Cumulative kWh w/ losses (net free) Year 1	60,190,939
16	Cumulative kWh w/ losses (net free) Year 2	117,146,386
17	Cumulative kWh w/ losses (net free) Year 3	152,688,225
18	Cumulative kWh w/ losses (net free) Year 4	171,224,132
19	Per Participant Coincident Saved Winter kW w/losses	1
20	Per Participant Coincident Saved Summer kW w/losses	1
21	Per Participant Annual kWh w/losses Year 1	4,558
22	Per Participant Annual kWh w/losses Year 2	4,558
23	Per Participant Annual kWh w/losses Year 3	4,558
24	Per Participant Annual kWh w/losses Year 4	4,558
25	Cumulative Lost Revenue (Net Free Riders) Year 1	\$5,219,224
26	Cumulative Lost Revenue (Net Free Riders) Year 2	\$10,399,899
27	Cumulative Lost Revenue (Net Free Riders) Year 3	\$13,861,189
28	Cumulative Lost Revenue (Net Free Riders) Year 4	\$15,874,462
29	Lost Revenue per Participant Year 1	\$388
30	Lost Revenue per Participant Year 2	\$397
31	Lost Revenue per Participant Year 3	\$406
32	Lost Revenue per Participant Year 4	\$416
33	Total Avoided Costs/MW saved Year 1	\$113,124
34	Total Avoided Costs/MW saved Year 2	\$115,567

Residential Smart \$aver – HVAC Measures

35	Total Avoided Costs/MW saved Year 3	\$117,766
36	Total Avoided Costs/MW saved Year 4	\$119,836
37	Total Avoided Costs/MWh saved Year 1	\$40
38	Total Avoided Costs/MWh saved Year 2	\$42
39	Total Avoided Costs/MWh saved Year 3	\$40
40	Total Avoided Costs/MWh saved Year 4	\$43

Residential Smart Saver – HVAC Measures

Attachment A2

Participation

	Program Name	Residential Smart Saver® Energy Efficient Products
1	Measure Life	12
2	Free Rider %	18%
3	Incremental Participants Year 1	1,198,617
4	Incremental Participants Year 2	1,144,574
5	Incremental Participants Year 3	689,505
6	Incremental Participants Year 4	317,614
7	Cumulative Participation Year 1	1,198,617
8	Cumulative Participation Year 2	2,343,191
9	Cumulative Participation Year 3	3,032,696
10	Cumulative Participation Year 4	3,350,310
11	Cumulative Summer Coincident kW w/ losses (net free) Year 1	7,719
12	Cumulative Summer Coincident kW w/ losses (net free) Year 2	15,331
13	Cumulative Summer Coincident kW w/ losses (net free) Year 3	20,952
14	Cumulative Summer Coincident kW w/ losses (net free) Year 4	25,101
15	Cumulative kWh w/ losses (net free) Year 1	60,190,939
16	Cumulative kWh w/ losses (net free) Year 2	117,146,386
17	Cumulative kWh w/ losses (net free) Year 3	152,688,225
18	Cumulative kWh w/ losses (net free) Year 4	171,224,132
19	Per Participant Coincident Saved Winter kW w/losses	1
20	Per Participant Coincident Saved Summer kW w/losses	1
21	Per Participant Annual kWh w/losses Year 1	4,558
22	Per Participant Annual kWh w/losses Year 2	4,558
23	Per Participant Annual kWh w/losses Year 3	4,558
24	Per Participant Annual kWh w/losses Year 4	4,558
25	Cumulative Lost Revenue (Net Free Riders) Year 1	\$5,219,224
26	Cumulative Lost Revenue (Net Free Riders) Year 2	\$10,399,899
27	Cumulative Lost Revenue (Net Free Riders) Year 3	\$13,861,189
28	Cumulative Lost Revenue (Net Free Riders) Year 4	\$15,874,462
29	Lost Revenue per Participant Year 1	\$388
30	Lost Revenue per Participant Year 2	\$397
31	Lost Revenue per Participant Year 3	\$406
32	Lost Revenue per Participant Year 4	\$416
33	Total Avoided Costs/MW saved Year 1	\$113,124
34	Total Avoided Costs/MW saved Year 2	\$115,567

Residential Smart \$aver – HVAC Measures

35	Total Avoided Costs/MW saved Year 3	\$117,766
36	Total Avoided Costs/MW saved Year 4	\$119,836
37	Total Avoided Costs/MWh saved Year 1	\$40
38	Total Avoided Costs/MWh saved Year 2	\$42
39	Total Avoided Costs/MWh saved Year 3	\$40
40	Total Avoided Costs/MWh saved Year 4	\$43

Residential Smart Saver – HVAC Measures

Attachment B

Cost-Effectiveness Evaluation

Residential SmartSaver Products and Services

		UCT	TRC	RIM	Participant
1	Avoided T&D Electric	\$12,852,968	\$12,852,968	\$12,852,968	\$0
2	Cost-Based Avoided Production	\$46,582,885	\$46,582,885	\$46,582,885	\$0
3	Cost-Based Avoided Capacity	\$14,998,218	\$14,998,218	\$14,998,218	\$0
4	Lost Revenue	\$0	\$0	\$0	\$88,260,480
5	Net Lost Revenue	\$0	\$0	\$65,194,375	\$0
6	Administration Costs	\$3,413,258	\$3,413,258	\$3,413,258	\$0
7	Implementation Costs	\$9,909,181	\$9,909,181	\$9,909,181	\$0
8	Incentives	\$18,658,357	\$0	\$18,658,357	\$18,658,357
9	Other Utility Costs	\$1,095,605	\$1,095,605	\$1,095,605	\$0
10	Participant Costs	\$0	\$24,452,168	\$0	\$24,452,168
11	Total Benefits	\$74,434,072	\$74,434,072	\$74,434,072	\$106,918,838
12	Total Costs	\$33,076,401	\$38,870,212	\$98,270,776	\$24,452,168
13	Benefit/Cost Ratios	2.25	1.91	0.76	4.37

Data represents present value of costs and benefits over the life of the program.

Residential Smart Saver – HVAC Measures

Attachment B2

Cost-Effectiveness Evaluation

Residential SmartSaver Products and Services

		UCT	TRC	RIM	Participant
1	Avoided T&D Electric	\$12,852,968	\$12,852,968	\$12,852,968	\$0
2	Cost-Based Avoided Production	\$46,582,885	\$46,582,885	\$46,582,885	\$0
3	Cost-Based Avoided Capacity	\$14,998,218	\$14,998,218	\$14,998,218	\$0
4	Lost Revenue	\$0	\$0	\$0	\$88,260,480
5	Net Lost Revenue	\$0	\$0	\$65,194,375	\$0
6	Administration Costs	\$3,413,258	\$3,413,258	\$3,413,258	\$0
7	Implementation Costs	\$9,909,181	\$9,909,181	\$9,909,181	\$0
8	Incentives	\$23,681,197	\$0	\$23,681,197	\$23,681,197
9	Other Utility Costs	\$1,095,605	\$1,095,605	\$1,095,605	\$0
10	Participant Costs	\$0	\$24,452,168	\$0	\$24,452,168
11	Total Benefits	\$74,434,072	\$74,434,072	\$74,434,072	\$111,941,678
12	Total Costs	\$38,099,241	\$38,870,212	\$103,293,616	\$24,452,168
13	Benefit/Cost Ratios	1.95	1.91	0.72	4.58

Residential Smart Saver – HVAC Measures

Attachment C

Cost and Benefits by Year

	Program Name	Residential Smart Saver® Energy Efficient Products
1	Incremental Participants Year 1	1,198,617
2	Incremental Participants Year 2	1,144,574
3	Incremental Participants Year 3	689,505
4	Incremental Participants Year 4	317,614
5	Total Participant Costs Year 1	\$6,777,035
6	Total Participant Costs Year 2	\$7,214,944
7	Total Participant Costs Year 3	\$7,454,893
8	Total Participant Costs Year 4	\$7,780,597
9	Administration Costs Year 1	\$990,190
10	Administration Costs Year 2	\$1,009,994
11	Administration Costs Year 3	\$859,489
12	Administration Costs Year 4	\$470,399
13	Implementation Costs Year 1	\$2,272,822
14	Implementation Costs Year 2	\$2,347,665
15	Implementation Costs Year 3	\$2,205,968
16	Implementation Costs Year 4	\$2,108,683
17	Total Incentives Year 1	\$4,622,460
18	Total Incentives Year 2	\$4,920,586
19	Total Incentives Year 3	\$4,196,462
20	Total Incentives Year 4	\$3,528,724
21	Other Utility Costs Year 1	\$270,000
22	Other Utility Costs Year 2	\$273,099
23	Other Utility Costs Year 3	\$249,011
24	Other Utility Costs Year 4	\$224,671
25	Total Utility Costs Year 1	\$8,155,473
26	Total Utility Costs Year 2	\$8,551,344
27	Total Utility Costs Year 3	\$7,510,931
28	Total Utility Costs Year 4	\$6,332,477

Residential Smart \$aver – HVAC Measures

Attachment C2

Cost and Benefits by Year

	Program Name	Residential Smart \$aver® Energy Efficient Products
1	Incremental Participants Year 1	1,198,617
2	Incremental Participants Year 2	1,144,574
3	Incremental Participants Year 3	689,505
4	Incremental Participants Year 4	317,614
5	Total Participant Costs Year 1	\$6,777,035
6	Total Participant Costs Year 2	\$7,214,944
7	Total Participant Costs Year 3	\$7,454,893
8	Total Participant Costs Year 4	\$7,780,597
9	Administration Costs Year 1	\$990,190
10	Administration Costs Year 2	\$1,009,994
11	Administration Costs Year 3	\$859,489
12	Administration Costs Year 4	\$470,399
13	Implementation Costs Year 1	\$2,272,822
14	Implementation Costs Year 2	\$2,347,665
15	Implementation Costs Year 3	\$2,205,968
16	Implementation Costs Year 4	\$2,108,683
17	Total Incentives Year 1	\$5,462,454
18	Total Incentives Year 2	\$5,905,983
19	Total Incentives Year 3	\$5,346,962
20	Total Incentives Year 4	\$4,875,246
21	Other Utility Costs Year 1	\$270,000
22	Other Utility Costs Year 2	\$273,099
23	Other Utility Costs Year 3	\$249,011
24	Other Utility Costs Year 4	\$224,671
25	Total Utility Costs Year 1	\$8,995,466
26	Total Utility Costs Year 2	\$9,536,741
27	Total Utility Costs Year 3	\$8,661,430
28	Total Utility Costs Year 4	\$7,679,000

Residential Smart \$aver – HVAC Measures

Attachment D

Cost and Benefits per Participant

	Program Name	Residential Smart \$aver® Energy Efficient Products
1	Per Participant Administration Costs Year 1	\$194
2	Per Participant Administration Costs Year 2	\$174
3	Per Participant Administration Costs Year 3	\$157
4	Per Participant Administration Costs Year 4	\$141
5	Per Participant Implementation Costs Year 1	\$636
6	Per Participant Implementation Costs Year 2	\$566
7	Per Participant Implementation Costs Year 3	\$549
8	Per Participant Implementation Costs Year 4	\$533
9	Per Participant Incentives Year 1	\$1,131
10	Per Participant Incentives Year 2	\$1,131
11	Per Participant Incentives Year 3	\$1,130
12	Per Participant Incentives Year 4	\$1,128
13	Per Participant Other Utility Costs Year 1	\$35
14	Per Participant Other Utility Costs Year 2	\$24
15	Per Participant Other Utility Costs Year 3	\$24
16	Per Participant Other Utility Costs Year 4	\$23
17	Per Participant Total Utility Costs Year 1	\$1,996
18	Per Participant Total Utility Costs Year 2	\$1,896
19	Per Participant Total Utility Costs Year 3	\$1,860
20	Per Participant Total Utility Costs Year 4	\$1,824

Residential Smart Saver – HVAC Measures

Attachment D2

Cost and Benefits per Participant

	Program Name	Residential Smart Saver® Energy Efficient Products
1	Per Participant Administration Costs Year 1	\$194
2	Per Participant Administration Costs Year 2	\$174
3	Per Participant Administration Costs Year 3	\$157
4	Per Participant Administration Costs Year 4	\$141
5	Per Participant Implementation Costs Year 1	\$636
6	Per Participant Implementation Costs Year 2	\$566
7	Per Participant Implementation Costs Year 3	\$549
8	Per Participant Implementation Costs Year 4	\$533
9	Per Participant Incentives Year 1	\$1,741
10	Per Participant Incentives Year 2	\$1,741
11	Per Participant Incentives Year 3	\$1,740
12	Per Participant Incentives Year 4	\$1,738
13	Per Participant Other Utility Costs Year 1	\$35
14	Per Participant Other Utility Costs Year 2	\$24
15	Per Participant Other Utility Costs Year 3	\$24
16	Per Participant Other Utility Costs Year 4	\$23
17	Per Participant Total Utility Costs Year 1	\$2,625
18	Per Participant Total Utility Costs Year 2	\$2,524
19	Per Participant Total Utility Costs Year 3	\$2,486
20	Per Participant Total Utility Costs Year 4	\$2,448

Residential Smart \$aver – HVAC Measures

Attachment E

Cost and Benefits per kW

	Program Name	Residential Smart \$aver® Energy Efficient Products
1	Annual Coincident Winter kW w/losses NF Year 1	8,718
2	Annual Coincident Winter kW w/losses NF Year 2	16,907
3	Annual Coincident Winter kW w/losses NF Year 3	21,884
4	Annual Coincident Winter kW w/losses NF Year 4	24,280
5	Annual Coincident Summer kW w/losses NF Year 1	7,719
6	Annual Coincident Summer kW w/losses NF Year 2	15,331
7	Annual Coincident Summer kW w/losses NF Year 3	20,952
8	Annual Coincident Summer kW w/losses NF Year 4	25,101
9	Administration Costs / Summer Coincident kW w/ losses NF Year 1	\$1,918
10	Administration Costs / Summer Coincident kW w/ losses NF Year 2	\$1,825
11	Administration Costs / Summer Coincident kW w/ losses NF Year 3	\$1,545
12	Administration Costs / Summer Coincident kW w/ losses NF Year 4	\$1,212
13	Implementation Costs / Summer Coincident kW w/ losses NF Year 1	\$5,791
14	Implementation Costs / Summer Coincident kW w/ losses NF Year 2	\$5,207
15	Implementation Costs / Summer Coincident kW w/ losses NF Year 3	\$4,962
16	Implementation Costs / Summer Coincident kW w/ losses NF Year 4	\$4,677
17	Incentives / Summer Coincident kW w/ losses NF Year 1	\$10,514
18	Incentives / Summer Coincident kW w/ losses NF Year 2	\$10,514
19	Incentives / Summer Coincident kW w/ losses NF Year 3	\$10,245
20	Incentives / Summer Coincident kW w/ losses NF Year 4	\$9,759
21	Other Utility Costs / Summer Coincident kW w/ losses NF Year 1	\$430
22	Other Utility Costs / Summer Coincident kW w/ losses NF Year 2	\$326
23	Other Utility Costs / Summer Coincident kW w/ losses NF Year 3	\$320
24	Other Utility Costs / Summer Coincident kW w/ losses NF Year 4	\$322
25	Utility Costs / Summer Coincident kW w/ losses NF Year 1	\$18,653
26	Utility Costs / Summer Coincident kW w/ losses NF Year 2	\$17,872
27	Utility Costs / Summer Coincident kW w/ losses NF Year 3	\$17,073
28	Utility Costs / Summer Coincident kW w/ losses NF Year 4	\$15,970

Residential Smart \$aver – HVAC Measures

Attachment E2

Cost and Benefits per kW

	Program Name	Residential Smart \$aver® Energy Efficient Products
1	Annual Coincident Winter kW w/losses NF Year 1	8,718
2	Annual Coincident Winter kW w/losses NF Year 2	16,907
3	Annual Coincident Winter kW w/losses NF Year 3	21,884
4	Annual Coincident Winter kW w/losses NF Year 4	24,280
5	Annual Coincident Summer kW w/losses NF Year 1	7,719
6	Annual Coincident Summer kW w/losses NF Year 2	15,331
7	Annual Coincident Summer kW w/losses NF Year 3	20,952
8	Annual Coincident Summer kW w/losses NF Year 4	25,101
9	Administration Costs / Summer Coincident kW w/ losses NF Year 1	\$1,918
10	Administration Costs / Summer Coincident kW w/ losses NF Year 2	\$1,825
11	Administration Costs / Summer Coincident kW w/ losses NF Year 3	\$1,545
12	Administration Costs / Summer Coincident kW w/ losses NF Year 4	\$1,212
13	Implementation Costs / Summer Coincident kW w/ losses NF Year 1	\$5,791
14	Implementation Costs / Summer Coincident kW w/ losses NF Year 2	\$5,207
15	Implementation Costs / Summer Coincident kW w/ losses NF Year 3	\$4,962
16	Implementation Costs / Summer Coincident kW w/ losses NF Year 4	\$4,677
17	Incentives / Summer Coincident kW w/ losses NF Year 1	\$14,651
18	Incentives / Summer Coincident kW w/ losses NF Year 2	\$14,651
19	Incentives / Summer Coincident kW w/ losses NF Year 3	\$14,382
20	Incentives / Summer Coincident kW w/ losses NF Year 4	\$13,896
21	Other Utility Costs / Summer Coincident kW w/ losses NF Year 1	\$430
22	Other Utility Costs / Summer Coincident kW w/ losses NF Year 2	\$326
23	Other Utility Costs / Summer Coincident kW w/ losses NF Year 3	\$320
24	Other Utility Costs / Summer Coincident kW w/ losses NF Year 4	\$322
25	Utility Costs / Summer Coincident kW w/ losses NF Year 1	\$22,857
26	Utility Costs / Summer Coincident kW w/ losses NF Year 2	\$22,068
27	Utility Costs / Summer Coincident kW w/ losses NF Year 3	\$21,261
28	Utility Costs / Summer Coincident kW w/ losses NF Year 4	\$20,152

Residential Smart \$aver – HVAC Measures

Attachment F

Cost and Benefits per kWh

	Program Name	Residential Smart \$aver® Energy Efficient Products
1	Total kWh w/losses NF Year 1	60,190,939
2	Total kWh w/losses NF Year 2	117,146,386
3	Total kWh w/losses NF Year 3	152,688,225
4	Total kWh w/losses NF Year 4	171,224,132
5	Total Administration Costs / kWh w/ losses NF Year 1	\$0.52
6	Total Administration Costs / kWh w/ losses NF Year 2	\$0.25
7	Total Administration Costs / kWh w/ losses NF Year 3	\$0.15
8	Total Administration Costs / kWh w/ losses NF Year 4	\$0.10
9	Total Implementation Costs / kWh w/ losses NF Year 1	\$1.80
10	Total Implementation Costs / kWh w/ losses NF Year 2	\$0.85
11	Total Implementation Costs / kWh w/ losses NF Year 3	\$0.58
12	Total Implementation Costs / kWh w/ losses NF Year 4	\$0.44
13	Total Incentives / kWh w/ losses NF Year 1	\$2.42
14	Total Incentives / kWh w/ losses NF Year 2	\$1.28
15	Total Incentives / kWh w/ losses NF Year 3	\$0.88
16	Total Incentives / kWh w/ losses NF Year 4	\$0.68
17	Total Other Utility Costs / kWh w/ losses NF Year 1	\$0.11
18	Total Other Utility Costs / kWh w/ losses NF Year 2	\$0.04
19	Total Other Utility Costs / kWh w/ losses NF Year 3	\$0.03
20	Total Other Utility Costs / kWh w/ losses NF Year 4	\$0.02
21	Total Utility Costs / kWh w/ losses NF Year 1	\$4.85
22	Total Utility Costs / kWh w/ losses NF Year 2	\$2.42
23	Total Utility Costs / kWh w/ losses NF Year 3	\$1.64
24	Total Utility Costs / kWh w/ losses NF Year 4	\$1.25

Residential Smart \$aver – HVAC Measures

Attachment F2

Cost and Benefits per kWh

	Program Name	Residential Smart \$aver® Energy Efficient Products
1	Total kWh w/losses NF Year 1	60,190,939
2	Total kWh w/losses NF Year 2	117,146,386
3	Total kWh w/losses NF Year 3	152,688,225
4	Total kWh w/losses NF Year 4	171,224,132
5	Total Administration Costs / kWh w/ losses NF Year 1	\$0.52
6	Total Administration Costs / kWh w/ losses NF Year 2	\$0.25
7	Total Administration Costs / kWh w/ losses NF Year 3	\$0.15
8	Total Administration Costs / kWh w/ losses NF Year 4	\$0.10
9	Total Implementation Costs / kWh w/ losses NF Year 1	\$1.80
10	Total Implementation Costs / kWh w/ losses NF Year 2	\$0.85
11	Total Implementation Costs / kWh w/ losses NF Year 3	\$0.58
12	Total Implementation Costs / kWh w/ losses NF Year 4	\$0.44
13	Total Incentives / kWh w/ losses NF Year 1	\$3.90
14	Total Incentives / kWh w/ losses NF Year 2	\$2.08
15	Total Incentives / kWh w/ losses NF Year 3	\$1.45
16	Total Incentives / kWh w/ losses NF Year 4	\$1.13
17	Total Other Utility Costs / kWh w/ losses NF Year 1	\$0.11
18	Total Other Utility Costs / kWh w/ losses NF Year 2	\$0.04
19	Total Other Utility Costs / kWh w/ losses NF Year 3	\$0.03
20	Total Other Utility Costs / kWh w/ losses NF Year 4	\$0.02
21	Total Utility Costs / kWh w/ losses NF Year 1	\$6.36
22	Total Utility Costs / kWh w/ losses NF Year 2	\$3.23
23	Total Utility Costs / kWh w/ losses NF Year 3	\$2.22
24	Total Utility Costs / kWh w/ losses NF Year 4	\$1.71

Residential Smart \$aver – HVAC Measures

Attachment G -Tariff

Duke Energy Carolinas, LLC

Electricity No. 4
North Carolina Original (Proposed) Leaf No. 159

RESIDENTIAL SMART SAVER® TUNE AND SEAL PROGRAM (NC)

PURPOSE

The purpose of this program is to reduce energy usage for thermal conditioning in a residence through installation of energy efficiency measures and equipment maintenance to improve operating efficiency.

PROGRAM

- Payments are available to owners of existing individually-metered residences, condominiums and mobile homes served on a Duke Energy Carolinas' residential rate schedules from Duke Energy Carolinas' retail distribution system.
- Payments are available for one or more of the following services performed at the customer's residence:
 1. Heating Ventilation and Air Conditioning (HVAC) Tune Up
 - HVAC Tune-Up must include appropriate system checks, repairs, replacement of parts, correction of refrigerant charge, and adjustment of airflow
 - The customer is eligible for only one HVAC Tune Up payment over the life of the equipment
 2. Attic Insulation and Air Sealing
 - The level of attic in the residence must be increased from a minimum of R-19 prior to improvement to at least R-30.
 - Air leakage must be reduced through sealing by at least of 5% as demonstrated by test before and after sealing is performed
 3. Duct Insulation
 - A minimum of 1000 square feet of conditioned floor area must be served by the duct system improvement
 - The level of duct insulation in attics must be increased from a minimum of R4-2 prior to improvement to at least R-19.
 - The level of duct insulation in unconditioned basements or crawlspaces must be increased from R-0 prior to improvement to at least R-6.
 4. Duct Sealing
 - Ducts must be sealed such that duct leakage is reduced by at least 12% as demonstrated by test before and after sealing is performed.
- All improvements eligible for payment under this program must be performed, or installed by, a Duke Energy Carolinas approved contractor.
- All improvements eligible for payment under this program must be installed based on manufacturer's recommendations and the Company's specifications. Detailed requirements are available on the Company's website at www.duke-energy.com.
- To qualify for payment under this program, qualifying improvements must be made on or after (*effective date of this program*) and the application for payment must be made within 90 days of completion of the work.

PAYMENT

Payments will be made to the owner (or designee) for qualifying improvements as follows:

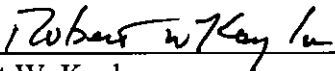
Central Air Conditioner Tune Up per unit	up to \$60
Heat Pump Tune Up per unit	up to \$ 125
Attic Insulation and Air Sealing	up to \$ 400
Duct Sealing	up to \$ 200
Duct Insulation	up to \$ 350

North Carolina Original (Proposed) Leaf No. 159
Effective
NCUC Docket No. E-7, Sub 831

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC's Proposed Added Measures to the Residential Smart Saver Program in Docket No. E-7, Sub 831, has been served by electronic mail (e-mail), hand delivery or by depositing a copy in the United States Mail, first class postage prepaid, properly addressed to parties of record.

This the 22nd day of February, 2012.



Robert W. Kaylor
Law Office of Robert W. Kaylor, P.A.
3700 Glenwood Avenue, Suite 330
Raleigh NC 27612
(919) 828-5250
NC State Bar No. 6237